Dam Removal:
Riverine Migratory Corridor Restoration

New England District

US Army

Corps of Engineers

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Early successes in dam removal

Brownville Dam in Maine

NRCS opens up 300 stream miles for Atlantic Salmon = $150K

Early successe
in dam remova

NRCS = $80K – 26 stream miles

Souadabscook Dam in Maine

Early successes in dam removal

Pentagon IRT Program

East Machias Dam in

Great training and 300 miles of

Edwards Dam Removal on the Kennebec River was mitigation

Bath Iron Works Shipyard wanted 34 acres of estuarine fill – USACE Permit required Edwards Dam removal as mitigation.

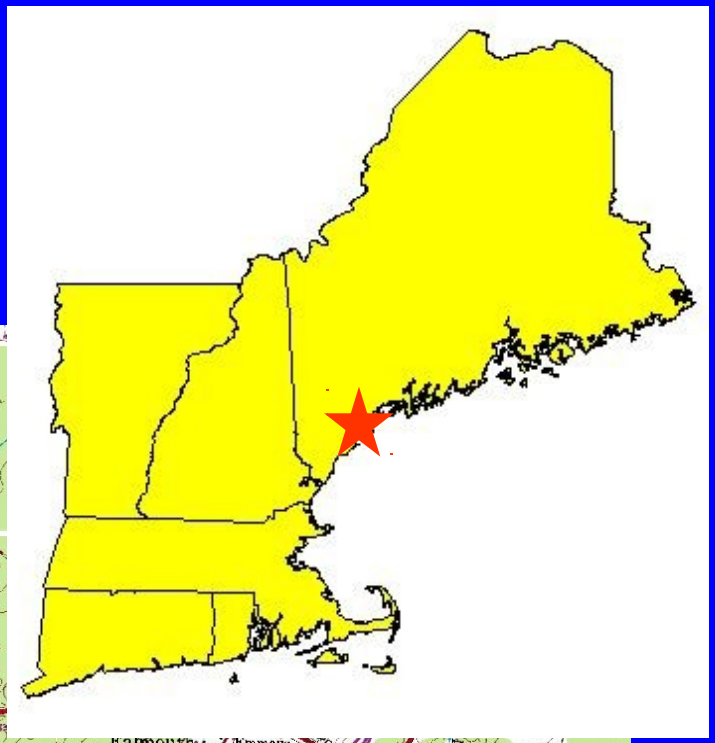
Presumpscot River

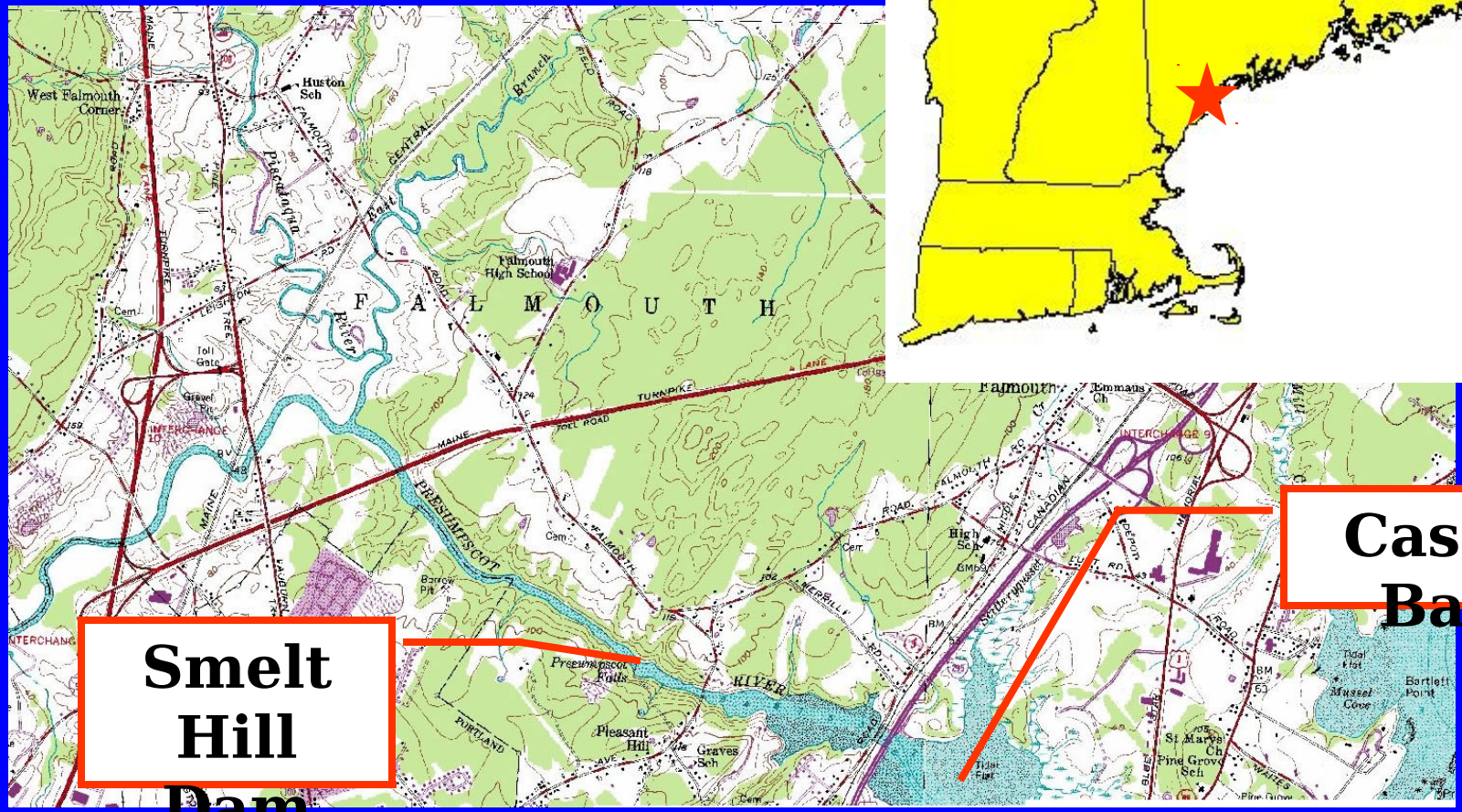
Aquatic Ecosystem Restoration Project

Smelt Hill Dam

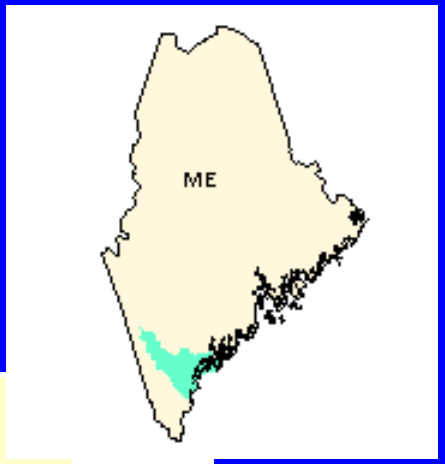
The Presumpscot River

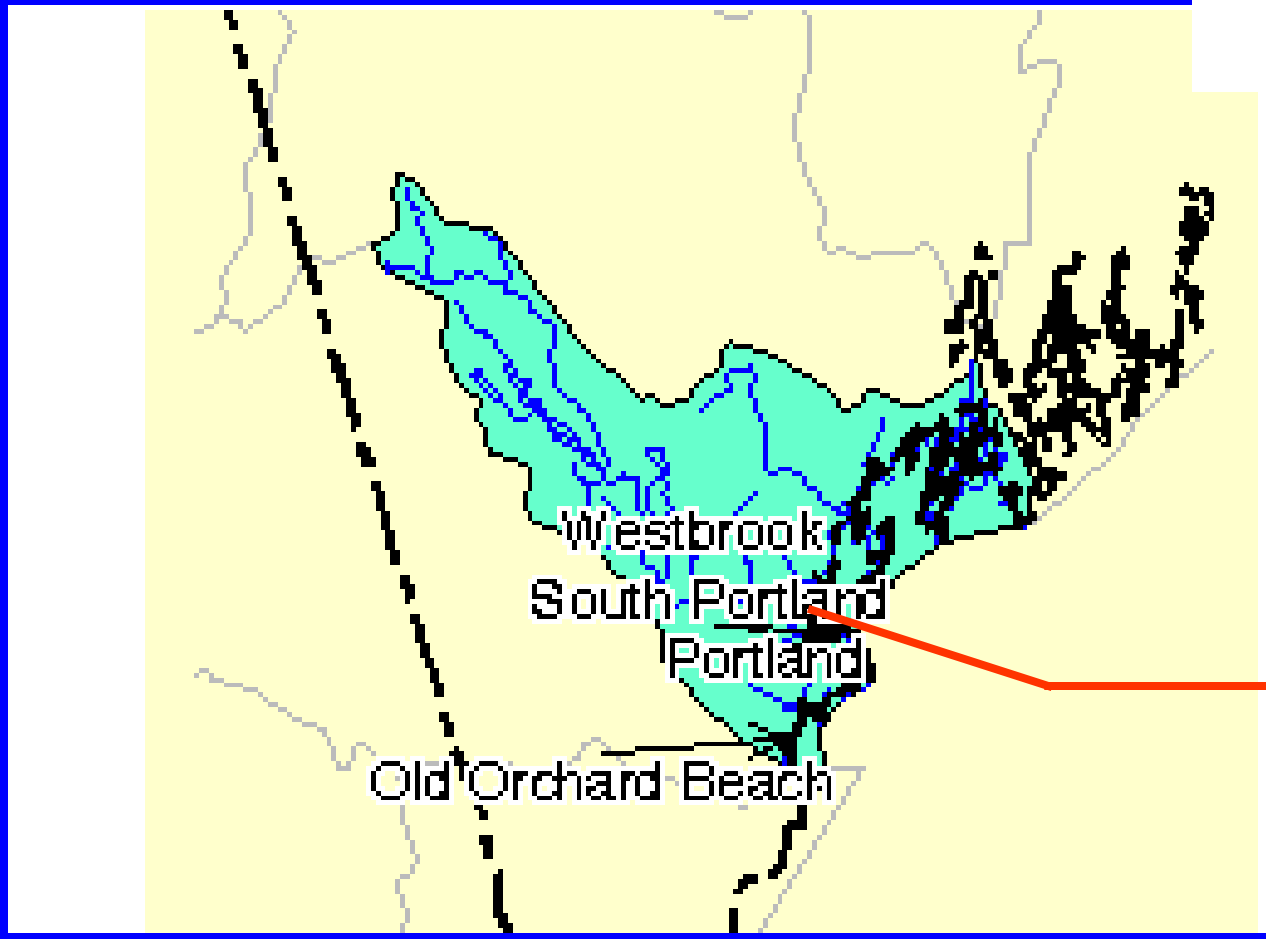
Location




West Falmouth Corner
Huston Sch
Falmouth High School
F A L M O U T H
Presumpscot River
TURNPIKE
MAINE TOLL ROAD
PRESUMPSCOT
RIVER
Pleasant Hill
Graves Sch
Falmouth
Casco Bay
Smelt Hill Dam

Presumpscot Watershed



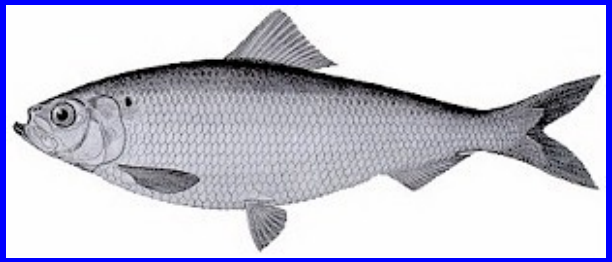


Project Goals and Objectives

- Facilitate upstream (to spawning areas) and downstream passage of river herring
- Enable passage of other species (e.g. shad, smelt, striped bass, Atlantic salmon)
- Restore riverine habitat in the pool
- Enhance the overall productivity of the Presumpscot River ecosystem

Benefits

- Opened 7 miles of Presumpscot River + tributaries along the reach, including 12 mi to Highland Pond
- 150,000 more Alewife
- 14,000 more American Shad
- Improved water quality



Graphic source: VIMS

Non-Federal Sponsor

- State of Maine
  - Maine Department of Marine Resources
  - Maine Department of Environmental Protection

Other Project Partners

- Coastal Conservation Association
- Coastal America Corporate Wetlands Restoration Partnership
- Central Maine Power Company
- Maine Department of Transportation
- U.S. Fish and Wildlife Service
- National Marine Fisheries Service
- Town of Falmouth

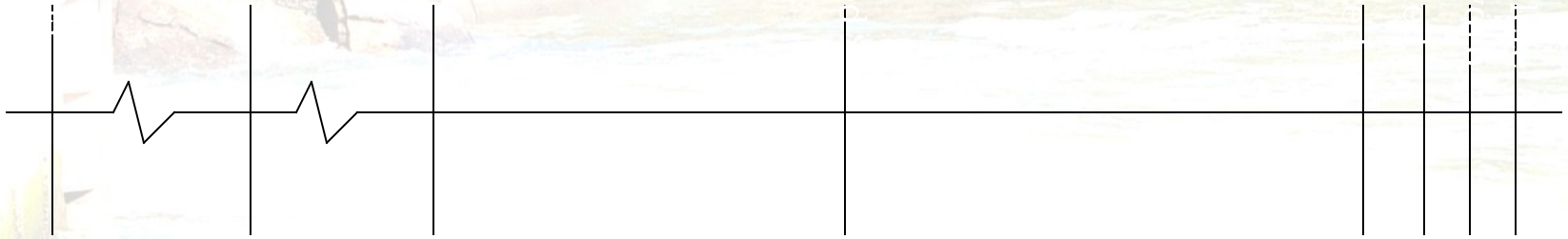
Project Costs

- Feasibility Study - $166,000
- Plans and Specifications - $114,000
- Construction - $312,000
- LERRDs - $350,000

The Dam

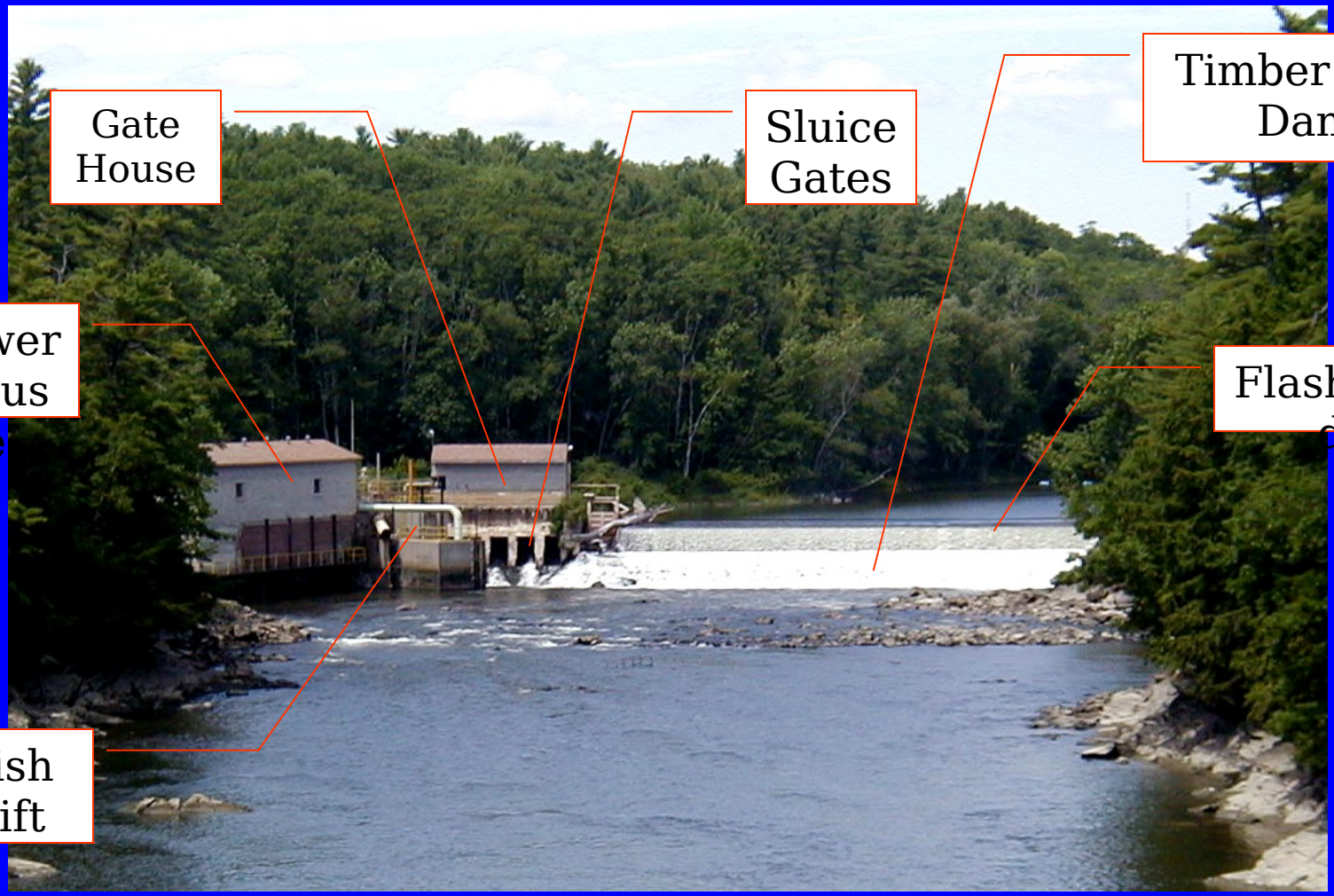
- Stone-filled timber crib
- Dimensions: 151-foot long, 31-foot wide, 15-foot high
- Located at head of tide
- Former hydropower facility

Events Timeline



Smelt Hill Dam

Smelt Hill Dam



COSTELLO
Costello
VOLVO
VOLVO
CAT

PC400HD
2

COSTELLO

Slope Work

Slope Work

Slope Work

Slope and Access Road

Removal Site

Historic Fishway

Remaining Timber Crib

Presumpscot Falls

Lessons Learned

- It is not just USACE with dam removal $$
- Floodplain sediments – revegetate or erode?
- Other Dam owners may protest.
- Make it greener when you leave.
- Historic issues can be expected.
- Happy partners mean more projects…

What’s next?

Other dam projects in Maine in the works

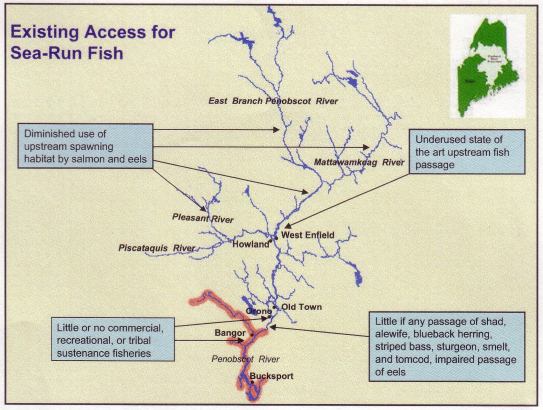
Sandy River, Madison, Maine

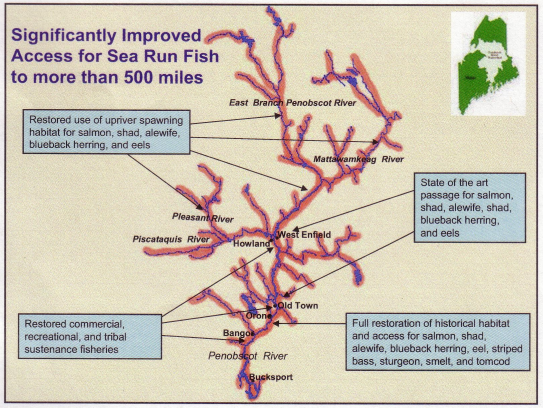
Montsweag Brook, Maine

Penobscot River Dams

- Open 500 miles of the Penobscot River
- Largest remaining population of Atlantic salmon in the country
- Agreement:
  - 2 dams removed
  - 3rd dam will be decommissioned and a bypass constructed
  - Environmental coalition will pay power company ~$25 million; PPL will increase power generation on 6 other dams, recapturing about 90 % of the power it will lose

Penobscot River Watershed


Existing Access for Sea-Run Fish
East Branch Penobscot River
Diminished use of upstream spawning habitat by salmon and eels
Underused state of the art upstream fish passage
Mattawamkeag River
Pleasant River
West Enfield
Howland
Piscataquis River
Orono
Old Town
Bangor
Penobscot River
Bucksport
Little or no commercial, recreational, or tribal sustenance fisheries
Little if any passage of shad, alewife, blueback herring, striped bass, sturgeon, smelt, and tomcod, impaired passage of eels


Significantly Improved Access for Sea Run Fish to more than 500 miles
East Branch Penobscot River
Restored use of upriver spawning habitat for salmon, shad, alewife, blueback herring, and eels
Mattawamkeag River
State of the art passage for salmon, shad, alewife, shad, blueback herring, and eels
Pleasant River
Piscataquis River
Howland
West Enfield
Old Town
Orono
Bangor
Restored commercial, recreational, and tribal sustenance fisheries
Full restoration of historical habitat and access for salmon, shad, alewife, blueback herring, eel, striped bass, sturgeon, smelt, and tomcod
Penobscot River
Bucksport